## REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of February 27, 2007 (hereinafter Office Action). As this response is timely filed within the 3-month shortened statutory period, no fee is believed due. The Office, however, is expressly authorized to charge any deficiencies or credit any overpayments to Deposit Account 50-0951.

Claims 1, 3, 6-12, and 15-18 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,421,672 to McAlister, *et al.* (hereinafter McAllister). Claims 4-5 and 13-14 were rejected under 35 U.S.C. 103 (a) as being unpatentable over McAllister in view of U.S. Patent No. 6,256,630 to Gilai, *et al.* (hereinafter Gilai).

Applicants have cancelled claims 1-18 and added claims 19-38 to more clearly define the present invention and to further emphasize differences between the present invention and the cited prior art references. As discussed herein, the claim amendments are fully supported throughout the Specification. No new matter has been introduced by the claim amendments.

### *Applicants' Invention*

It may be useful to reiterate certain aspects of Applicants' invention prior to addressing the cited references. One embodiment of the invention, typified by newly-presented Claim 19, is a method of disambiguating database search results. The method can include retrieving multiple database entries responsive to a database search, the database entries including a plurality of common data fields (such as "Name," "Former Name," and/or "Phone," as shown in Fig. 1). The method also can include processing data items in each of the data fields of the retrieved database entries according to predetermined disambiguation criteria (such as "Failed Duplicate," "Failed Cannot Pronounce," and/or "Failed Items Too Long," as shown in Fig. 1). The method further

can include, based upon the processing, identifying from among the plurality of common data fields at least one disambiguation data field (such as the data fields "Location" and "Job Description," as shown in Fig. 1) which satisfies the predetermined disambiguation criteria.

The method further can include selecting one disambiguation data field based on a predetermined selection criterion (such as "smallest average length," as described at page 7, lines 10-12, of the Specification) when more than one disambiguation data field (such as data fields "Location" and "Job Description") is identified in the identifying step. The method additionally can include presenting, through a speech interface, data items corresponding to the selected disambiguation data field for each retrieved database entry, the speech interface being used in conjunction with a system in which the database search is performed. Moreover, the speech interface can provide an interface for searching information contained within a database and for audibly receiving results of the database search.

Another embodiment of the invention, typified by Claim 24, is a method of disambiguating database search results. The method can include retrieving multiple database entries responsive to a database search, the database entries including a plurality of common data fields (such as "Name," "Former Name," and/or "Phone," as illustrated in Fig. 1). The method also can include processing data items in each of the data fields of the retrieved database entries according to predetermined disambiguation criteria (such as "Failed Duplicate," "Failed Cannot Pronounce," and/or "Failed Items Too Long," as also shown in Fig. 1).

Additionally, the method can include, based upon the processing, identifying from among the plurality of common data fields at least one disambiguation data field (such as the data fields "Location" and/or "Job Description," as shown in Fig. 1) which satisfies the predetermined disambiguation criteria. The method further can include selecting one

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disambiguation data field based on a user input (as described at page 8, line 23, to page 9, line 1, of the Specification) when more than one disambiguation data fields (data fields "Location" and "Job Description") are identified in the identifying step. The method additionally can include presenting, through a speech interface, data items corresponding to the selected disambiguation data field for each the retrieved database entry, wherein the speech interface is used in conjunction with a system in which the database search is performed. Moreover, the speech interface can provide users of the system with an interface for searching for information contained within a database in which the database search was conducted and with an interface for audibly receiving results of the database search.

### *The Claims Define Over The Prior Art*

McAllister is directed to a system and method for electronically searching a telephone directory utilizing secondary information contained in subscriber listings to disambiguate search results (See, e.g., Abstract). Although, like the present invention, McAllister also concerns disambiguation of search results, the concept of McAllister is totally different from the concept of the present invention.

In McAllister, when multiple listings satisfying a primary or initial search request are found, a series prompts are used to solicit further information relative to the ambiguous results (see column 2, lines 45-46). The prompts are composed based on distinguishing information (such as a disambiguation data field) identified by the system using a hierarchical search pattern (see column 3, lines 34-37). However, McAllister does not concern the selection of the best disambiguation data field when multiple disambiguation data fields are identified.

It follows, accordingly, that McAllister does not expressly or inherently teach selecting one disambiguation data field based on a predetermined selection criterion or based on a user input when more than one disambiguation data fields are identified in the

identifying step, as recited in independent claims 19, 24, 29, and 34 of the instant application. Also, in identifying the disambiguation data fields, McAllister does not consider whether the pronounceability (see claims 21, 26, 31, and 36 of the instant application) or length (see claims 22, 27, 32, and 37 of the instant application) of the data items.

Col. 3, lines 34-54 of McAllister, cited in the Office Action,

*"Upon identifying the parties listed in the table above as candidates, the system uses a hierarchical search pattern to identify distinguishing information about the parties for presentation to the caller. As previously mentioned, conventional systems typically provide the caller with the names and telephone numbers of all of the candidate entries. Instead, the present system may first look to the Department field of the candidate entries to determine if they are unique. In this example, two of the candidate parties work in engineering, so that this category of information may not be useful to help select the correct party to be called. The system may next look to the location field and, as in the example above, determine that this information is unique among the candidates. The system would then provide the caller with both the name and location of the identified listings and ask the caller to select among the parties, typically by saying or using a keypad to input the number of the selection, e.g., "Say or push `1` to dial Robert Cook in Arlington, Virginia; `2` for the Robert Cook in Philadelphia, Pennsylvania; and `3` for Mr. Cook in Silver Spring, Maryland."*

The procedure described in the above paragraph may be considered as part of the processing step in order to identify disambiguation data fields (containing unique data items among the retrieved database entries), but it does not describe how to select the best disambiguation data field when there are multiple disambiguation data fields.

Similar to McAllister, the present invention also teaches the identification of a secondary field that can be used for disambiguation. McAllister, however, stops the search as soon as the first field is identified. The present invention, in contrast to McAllister, continues analyzing all of the fields that meet the criteria to determine which field will work the best for users who must remember and repeat the information in the

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field after hearing a dynamically-constructed prompt based on the best field for a speech user interface that has users repeat what they have heard.

McAllister includes in the database record pronunciation rules or audio files that ensure the correct pronunciation of the person names in the database (the primary key), but this is different than what the present invention teaches. The present invention teaches the use of analysis rules (predetermined speech interface criteria) that are in the program, not the database, and that examine the secondary data and use pronouncability as a criterion for selection of the best secondary field to use for disambiguation. The data from the secondary field are then used to construct a dynamic grammar to enable along with the audio presentation of the choices.

Thus, the use of audio files in McAllister actually teaches away from the present invention. In direct contrast to McAllister, the present invention dynamically assesses the best secondary field to use for disambiguation and, as part of that process, assesses which field is the most pronounceable – not only for the quality of presentation to the caller, but also for ensuring that the caller will be able to remember and repeat the presented speech option. To reiterate, the present invention is concerned not only with correctly pronouncing the secondary data in the automatically generated prompt, but also with the ease of pronounceability of the data item by the user. This feature is not addressed by McAllister due to McAllister reliance on a "say or push 1" user interface style.

Although Gilai mentions the word "ambiguous" in the title of the patent, Applicants respectfully submit that Gilai has no relevant relationship to the present invention. With regard to the rejections to previous claims 3, 7, 12, 16, the references do not teach the features recited. Specifically, the references do not teach that, in a speech system, an "exception pronunciation" is a pronunciation that is incorrect if produced according to the standard rules of a text-to-speech (TTS) engine and thus requires an exception pronunciation. Rather, the most common way to handle such a condition is to

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make an entry in the exception dictionary that the TTS engine references before applying its standard rules. Thus, rather than "not being able to be accurately pronounced," McAlllister describes a standard way of ensuring that the data can be pronounced by a TTS engine. Applicants respectfully point out that building up this list of exceptions can be very time-consuming, and is a step that the present invention does not require.

In the cited portion (column 4, lines 23-25), McAllister does not describe a process that excludes data fields having data items that are not able to be pronounced using the speech interface. Rather, McAllister describes a process that has nothing in common with the present invention. McAllister describes the use of a phonemic spelling of names (the primary key) to help to determine whether or not to include a name in the initial listing of results. With the present invention, the exclusion of non-pronounceable or difficult-to-pronounce data is applied to the secondary fields after eliminating potentially ambiguous secondary fields. In McAllister, by contrast, if the system hears "Cook," then it cannot exclude the possibility that the name is spelled "Koch." If, however, the system hears "Koch" (pronounced as "K AA CH"), then it can exclude the possibility that the name is spelled "Cook." Again, this has nothing to do with the present invention. McAllister eliminates elements from the primary data field, whereas the present invention selects the best secondary data field to use for disambiguation based on an assessment of the pronounceability of its data items.

Accordingly, Applicants respectfully submit that all the claims of the instant application define over the cited prior art and request the rejections under 35 USC 102 and 35 USC 103 be withdrawn.

## CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the

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undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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